



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,684	03/30/2001	Nobuhiro Kitagawa	0397-0425P	8802

2292 7590 08/29/2003

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

GORDON, BRIAN R

ART UNIT PAPER NUMBER

1743

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/820,684

Applicant(s)

KITAGAWA, NOBUHIRO

Examiner

Brian R. Gordon

Art Unit

1743

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on March 31, 2000. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).
2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on March 21, 2001. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 10 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the relationship of the analyzer and the dispensing apparatus. The claim merely states that an apparatus comprises the claimed dispenser. This only implies applicant intentions to use device, but is does not clearly define any further structure associated with the claimed invention as defined by any of the claims 1 to 9.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4, 6, and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanbara et al. US 5,628,962.

Kanbara discloses an analyzing apparatus has a movable container holding table on which a plurality of liquid containers are arranged. Each liquid container includes a container body accommodating a liquid such as a reagent, an **opening** portion, and a **cap hinged** to the container body. The analyzing apparatus further has a cap manipulator device including a **hook for manipulating the cap** so as to open and close the opening portion of the liquid container. The liquid in the liquid container whose opening portion is opened is aspirated through the opening portion and delivered to a liquid receiving container.

An **analyzing apparatus** is provided which comprises (1) a movable container holding table for holding a plurality of liquid containers, each of the liquid containers having a container body accommodating a liquid, an opening portion, and a cap attached to the container body so as to be capable of opening and closing the opening portion, (2) a cap manipulator for manipulating the cap so as to open the opening portion, and (3) a **pipette for aspirating the liquid** in the container whose opening

Art Unit: 1743

portion is opened therethrough and delivering the aspirated liquid to a liquid receiving container.

Each cap has a projecting portion (or hook), and the cap manipulator comprises a hook, the cap manipulator engaging the hook with the projecting portion and moving the hook so as to open the opening portion of the liquid container having the projecting portion with which the hook is engaged.

When the analysis is started after setting the liquid containers 4, the sample container holding table 5 and the reagent container storing device 2 rotate around the centers of the respective rotating mechanisms. The sample container holding table 5 transfers the sample container 43 containing a sample to be analyzed to a sample pipetting position which is an intersection of the horizontal moving locus 100 of the pipetter 3 and the rotational locus of the sample container 43. The reagent container storing device 2 transfers a plurality of liquid containers 4 containing the required reagents for individual analyzing items by rotational motion of the disk 12 to a manipulating position of the cap where the horizontal moving direction of the cap manipulator device 1 agrees with the direction of the rotational supporting shaft of the cap 16 and the position is in the side of the cap manipulator 1 on the reagent container storing device 2.

Then, the pipetter 3 horizontally moves the nozzle 15 to the sample pipetting position on the table 5 to suck or aspirate an amount of a sample required for the analysis from the sample container 43 and pours it into the reaction vessel 44.

Next, the cap manipulator 45 of the cap manipulator device 1 moves toward and stops at the liquid container 4 placed in the cap manipulating position while the hook 17 is kept in the initial position shown in FIG. 8. The position of the hook 17 to the cap 16 when the cap manipulator stops is a position where the claw 17a of the hook 17 does not catch at the projecting part 16a of the cap 16 as shown in FIG. 6. The hook 17 shown in FIG. 8 comprises the detection part 17b and the claw 17a.

As to the hook shown in FIG. 6, the hook 17 drawn by a two dotted chain line shows the hook 17 in the initial position, and the hook 17 drawn by solid line shows the hook 17 in a state where the hook is lowered to the lowermost position to the cap set so as to completely close the opening portion of the liquid container as shown in FIG. 9, or shows the hook 17 in a state where the hook is lowered to the lowermost position to the cap set so as to slightly open the opening portion of the liquid container as shown in FIG. 10 in the manipulating process of the cap for opening the opening portion of the liquid container shown in FIG. 8 to FIG. 11. The direction moving the hook 17 from the initial position of the cap manipulator 45 to the position shown in FIG. 6 is defined as a forward direction; moving, in the forward direction is called "forward moving" and moving in the opposite direction is called "backward moving".

The forward moving of the hook 17 to the position of FIG. 6 is performed in such a way that clockwise rotation of the pulse motor 30 for horizontal movement rotates the main driving pulley 29a and the timing belt 27, and the base 24 joined to the timing belt 27 with the belt fixing claw 24b is, therefore, driven. The stopping position is controlled by detecting the detection plate 31 fixed to the base 24 with the detector 34b.

After the hook 17 is stopped, it is driven by the pulse motor 25 to be lowered near the rotating shaft 18a of the hook supporting member 18, and it reaches a state shown by FIG. 9 or FIG. 10.

8. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwata et al. US 4,495,149.

Iwata et al. disclose an analyzing apparatus for applying samples and reagents to the surface of a reaction carrier and for optically analyzing each component contained in the various samples. The dispensing of the samples and reagents and the optical detection operation are performed by an optics/dispensing mechanism moved relative to the reaction carrier in two dimensions. The optics/dispensing mechanism is combined with a cleaning apparatus for cleansing reagents and samples from a dispensing needle by means of a rinsing agent and air ejected toward the needle. The apparatus further includes an automatic lifting mechanism for lifting and replacing a cover disposed on the reaction carrier, and is adapted to move the dispensing needle to a position over a nearby reagent/sample holder so that the needle may take up a desired reagent or sample from the holder and transfer it to the surface of the reaction carrier. The apparatus is capable of performing highly accurate analytical measurements fully automatically and in continuous fashion.

The optics/dispensing mechanism, supported by guide rails and guide rollers constituting the X-Y drive mechanism, is transported in two directions by the drive mechanism to subject the surface of a reaction carrier undergoing electrophoresis to dispensing operations and to optical measurements of scatter intensity and the like. The

optical system includes a lamp housing accommodating a light source for irradiating the surface of the reaction carrier, a light condenser, optical fibers for guiding the light, a lens housing for irradiating the prescribed area of the reaction carrier with light of uniform intensity, and a light receiving element for receiving light as is scattered from the irradiated surface. The dispensing needle is connected to a plurality of liquid supply sources by a pipe and is capable of being lowered to and raised from the surface of the reaction carrier in performing a dispensing operation.

The X-Y drive mechanism has X and Y sources of drive for driving the optics/dispensing mechanism in the X and Y directions along guide rails by means of driving belts. The dispensing needle cleaning apparatus is adapted to clean, by means of jetted liquid and air, the surface of the dispensing needle which repeatedly takes up reagents and samples and dispenses them at prescribed locations. The needle is cleaned by being raised and lowered through a conical cavity provided with a plurality of apertures for ejecting a cleansing solution and pressurized air toward the needle.

The lifting mechanism is adapted to open and close vessels by raising and lowering the vessel covers when the reaction carrier is to be supplied with reagents and samples by the dispensing needle, and when the surface of the carrier is to be subjected to optical measurement. Means for reading position optically are provided to assure that a lifter constituting the lifting mechanism will engage with hooks provided on the top surface of each cover.

Referring FIG. 1, the X-Y axis drive mechanism includes drive motors 1, 1' constituting the sources of drive for the X and Y axes, respectively, encoder/decoders 2,

Art Unit: 1743

2' rotatively driven by the drive motors 1, 1', respectively, gear boxes 3, 3' driven by the drive motors 1, 1', sprockets 4, 4' driven by the motors 1, 1' via the respective gear boxes 3, 3', slip clutches 5, 5', a belt 6 associated with the sprocket 4 and slip clutch 5 for X-axis drive, a pair of belts 7 for Y-axis drive, a Y-direction drive shaft 8 for driving the belts 7, Y-axis guide shoes 9, a pair of Y-axis guide rails 10, X-axis guide shoes 11, X-axis guide rollers 12, and a pair of X-axis guide rails 13. The drive motors 1, 1' have respective rotary shafts which, in driving the gear boxes 3, 3', simultaneously rotate the corresponding encoder/decoders 2, 2' to control both travelling distance and traveling speed along the X and Y axes. The gear boxes 3, 3' rotate the sprockets 4, 4' upon reducing the rotational speed of the drive motors 1, 1' by a prescribed gear ratio. In the event of a malfunction or the application of an excessive force, the slip clutches 5, 5' are adapted to interrupt the transmission of rotational motion from the drive motors 1, 1' to the sprockets 4, 4' and to stop the motors.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Spitz et al., Kidd, Lewis et al., Roa et al., Sogi et al., Schinzel, Heid et al., Cosgrove Jr. Et al., Carey et al., Pang et al., and Watanabe et al. disclose automated devices for sampling of materials contained in vials.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is (703) 305-0399. The examiner can normally be reached on M-F, with 2nd and 4th F off.

Art Unit: 1743

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 703-308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

brg



JEFFREY SNAY
PRIMARY EXAMINER